

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Wenhua Lin) Group No.: 2633
Serial No.: 09/724,179) Examiner: CURS, NATHAN M.
Filed: November 28, 2000) Docket No. LIGHT1320
For: Tunable Add/Drop Node for an Optical Network)

CERTIFICATION UNDER 37 CFR § 1.8

I hereby certify that the documents referred to as enclosed herein are being deposited with the United States Postal Service as first class mail on this date 12/13/04, in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231

12/13/04
Date

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Signature

MS Appeal Brief-Patents
Commissioner for Patents
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Alexandria, VA 22313-1450

APPELLANT'S BRIEF

I. **REAL PARTY IN INTEREST**

The real party in interest is Kotura, Inc., the assignee of the above referenced application.

II. **RELATED APPEALS AND INTERFERENCES**

No other appeals or interferences are known which will be affected by this appeal.

III. **STATUS OF CLAIMS**

The application under appeal includes pending claims 38-51. Claim 1-38 and 51 is canceled. Claims 38, 39, 44, 45 and 47-50 stand rejected under 35 USC §102(b). Claims 40-43,

46 and 51 stand rejected under 35 USC §103(a). Claims 45-51 are objected to under 37 CFR §1.126. Claim 46 is objected to under 35 USC §112, second paragraph. Claims 38-50 are appealed.

IV. STATUS OF AMENDMENTS

An amendment after final was submitted on August 9, 2004. An advisory Action mailed on October 22, 2004 indicated that the amendment was not entered but did not indicate whether the Amendment would be entered for the purposes of appeal. During a phone call with the Examiner on December 6, 2004, the Examiner indicated that the amendment would not be entered for the purposes of appeal.

In accordance with 37CFR§1.116(b), an amendment is submitted with this Appeal Brief. The amendment re-numbers claims 45-52 to claims 44-51 in order to address the objection under 37 CFR §1.126. Additionally, this amendment changes the dependency of claim 46 to address the objection under 35 USC §112, second paragraph.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Summary of Independent Claim 38

Independent claim 83 is directed to an add/drop apparatus. An exemplary embodiment of the apparatus is provided in Figure 2. The apparatus includes a switch 202 that receives a first channel and a second channel. The switch directs the channels so they are received by a channel selector 204 or so they bypass the channel selector 204 and are received at an output node 104. When the channel selector 204 receives the channels from the switch, the channel selector can transmit the first channel to an add/drop node 106 and the second channel to an output node 208. Alternately, the channel selector 204 can transmit the second channel to the add/drop node 106 and the first channel to the output node. As evident in Figure 2, the optical path that the channels travel from the switch 202 to the channel selector 204 is exclusive of the optical path from the channel selector 204 to the add/drop node 106, and is also exclusive of the optical path from the channel selector 204 to the output node 104. Other embodiments of Independent claim 38 are also disclosed in the application, however, the reference characters and Figures cited above were selected to efficiently provide an understanding of the claim.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Rejection of Claims 38, 39, 44, 45 and 47-50 Under 35 USC §102(b) as Being Anticipated by U.S. Patent Number 5,712,932 (Alexander).
2. Rejection of Claims 40-43, 46 Under 35 USC §103(a) as Being Unpatentable In View of U.S. Patent Number 5,712,932 (Alexander).

VII. ARGUMENT

1. Rejection of Claims 38, 39, 44, 45 and 47-50 Under 35 USC §102(b) as being anticipated by U.S. Patent number 5,712,932 (Alexander).

1-A. CLAIMS 38, 44, 45, and 47-50

Independent claim 38 stands rejected as being anticipated by U.S. Patent number 5,712,932 (Alexander). “To anticipate a claim, the reference must teach every element of the claim.” See MPEP §2131. Independent claim 38 specifies that the “optical path along which the channels travel from the switch to the channel selector (is) exclusive of an optical path from the channel selector to the add/drop node and (is) also exclusive of an optical path from the channel selector to the output node.” This language describes three different optical paths that each carry light signals to/from the channel selector. Because claim 38 requires three different optical paths to/from the channel selector, Alexander must teach at least three different optical paths for carrying light signals to/from a channel selector.

Alexander teaches a “switch ... having a closed position ... and a bypass position.” “In the closed position, the optical signals travel through an optical path which is intersected by an optical filter” and in the bypass positioned the optical signals bypass the optical filter. See column 6, lines 25-27 and lines 45-47. However, Alexander teaches only two paths for carrying light signals to/from the optical filter. This arrangement is made is possible because the filter “includes at least one Bragg grating configured to select an optical channel wavelength for reflection back through port 74.” See column 6, lines 22-32, *emphasis added*. Because the optical channels are reflected back through port 74, the reflected channels travel from the filter to

the switch along the same path they had originally traveled from the switch to the filter. Accordingly, one optical path serves both to carry optical signals to the filter and to carry light signals from the filter.

As noted above, the elements of claim 38 requires three optical paths to/from the channels selector. However, Alexander teaches only two optical paths that carry light signals to/from a filter. As a result, Alexander does not teach one of the claimed paths. In particular, Alexander does not teach an “optical path from the channel selector to the add/drop node” which is exclusive of an “optical path ... from the switch to the channel selector” as is claimed. As a result, Alexander does not teach each of the claim elements and does not anticipate claim 38.

1-B. CLAIM 39

Dependent claim 39 stands rejected as being anticipated by U.S. Patent number 5,712,932 (Alexander). “To anticipate a claim, the reference must teach every element of the claim.” See MPEP §2131. Dependent claim 39 specifies that the “channel selector is configured such that a bandwidth of a channel directed to the add/drop node can be tuned.”

Alexander does not teach a bandwidth tunable channel selector. However, Column 7, lines 30-51 are cited as teaching this principle. This citation is directed to tuning that shifts “the reflection wavelength ... in or out of (a) band” as is specifically noted at column 7, line 32 in the context of temperature based tuning and again at lines 41-42 in the context of strain based tuning. Because Alexander is concerned with shifting the wavelength(s) that fall within a band, the citation is directed to wavelength tuning. However, claim 39 is not directed to wavelength tuning but is directed to bandwidth tuning. These are different types of tuning that occur by different mechanisms and produce different results. For instance, suppose a band has a width of 100 units (nm, μm etc.) and permits passage of wavelengths from 200 units to 300 units. Wavelength tuning can shift the wavelengths within the band to 700 to 800 units while the width of the band remains 100 units. In contrast, bandwidth tuning can change the width of the band from 100 units to 200 units to permit passage of a broader range of wavelengths.

As noted above, claim 39 specifies a “channel selector ... configured such that a bandwidth of a channel directed to the add/drop node can be tuned. However, Alexander does not teach a bandwidth tunable channel selector. As result, Alexander does not teach each element of claim 39 and accordingly does not anticipate claim 39.

2. Rejection of Claims 40-43, 46 Under 35 USC §103(a) as Being Unpatentable In View of U.S. Patent number 5,712,932 (Alexander).

2-A. CLAIMS 40-41

Appellant submits that these claims are allowable as depending from independent claim 38 which is in condition for allowance as addressed above. Additionally or alternately, Applicant submits that these claims are allowable as depending from dependent claim 39 which is in condition for allowance as addressed above.

2-B. CLAIM 42-43

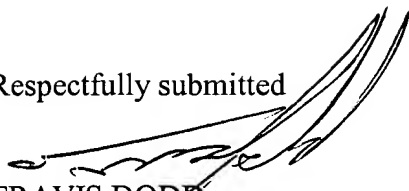
Dependent claim 42 and 43 stand rejected as being obvious because of U.S. Patent number 5,712,932 (Alexander). “To establish a prima facie case of obviousness ... the prior art must teach or suggest each of the claim elements.” See MPEP §2142. Claim 43 depends from claim 42 which depends from claim 40. Claim 40 specifies “a first optical filter element configured to divert a channel from a beam (with) a first bandwidth and a second optical filter element configured to divert the channel from the beam (with) a second bandwidth, (where the) second bandwidth (is) different from the first bandwidth.” Dependent claim 42 specifies that “an adjustment mechanism (is) configured to position (the) first and the second optical filter element relative to the beam in accordance with a desired optical bandwidth of a diverted signal.” As a result, claim 42 is not obvious unless Alexander teaches or suggests an adjustment mechanism configured to position a first and a second optical filter element relative to a beam in accordance with a desired optical bandwidth.

Alexander does not teach any mechanism that adjusts the position of a filter element relative to a beam. Further, Alexander does not even suggest a relationship between the position of a beam and the resulting bandwidth. As a result, Alexander does not suggest an adjustment mechanism configured to position a first and a second optical filter element “relative to the beam in accordance with a desired optical bandwidth of a diverted signal” as is claimed. As a result, claim 42 is patentable over Alexander because Alexander neither teaches nor suggests each element of claim 42.

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CLAIMS APPENDIX

38. An add/drop apparatus, comprising:

a channel selector configured to receive a plurality of channels that include a first channel and a second channel, the channel selector being configured to transmit the first channel to an add/drop node and the second channel to an output node when in a first channel mode and being further configured to transmit the second channel to the add/drop node and the first channel to the output node when in a second channel mode; and

a switch configured to receive a plurality of optical channels and to direct the optical channels such that the optical channels are received by the channel selector or such that the optical channels bypass the channel selector and are received at the output node, an optical path along which the channels travels from the switch to the channel selector being exclusive of an optical path from the channel selector to the add/drop node and also exclusive of an optical path from the channel selector to the output node.

39. The apparatus of claim 38, wherein the channel selector is configured such that a bandwidth of a channel directed to the add/drop node can be tuned.

40. The apparatus of claim 39, wherein the channel selector includes a bandwidth tunable filter module comprising:

a first optical filter element configured to divert a channel from a beam that includes a plurality of the channels, the first portion having a first bandwidth; and

a second optical filter element configured to divert the channel from the beam such that the channel has a second bandwidth, that second bandwidth being different from the first bandwidth.

41. The apparatus of claim 40, wherein the first optical filter element is arranged to move in conjunction with the second filter element.

42. The apparatus of claim 40, further comprising:

an adjustment mechanism configured to position the first and the second optical filter element relative to the beam in accordance with a desired optical bandwidth of a diverted signal.

43. The apparatus of claim 42, wherein the adjustment mechanism is further configured to position the first and the second optical filter element relative to the light signal such that the channel selector transmits the desired channel to the add/drop node.

44. The apparatus of claim 38, further comprising:
a controller configured to operate the switch such that channels are directed to the output port when changing the apparatus between the first channel mode and the second channel mode.

45. The apparatus of claim 38, wherein:
the channel selector is configured such that a first alternate optical channel traveling from the add/drop node to the channel selector travels from the channel selector to the output node when the channel selector is in the first channel mode.

46. The apparatus of claim 45, wherein:
the channel selector is configured such that when in the first channel mode, the first alternate channel is directed to the output node with a different bandwidth than the first channel directed to the add/drop node.

47. The apparatus of claim 38, further comprising:
one or more second channel selectors configured to receive the plurality of channels from the switch, each of the second channel selectors configured to transmit one or more of the channels to the add/drop node.

48. The apparatus of claim 47, wherein one or more of the second channel selectors is a fixed channel selector.

49. The apparatus of claim 47, further comprising:

an optical channel coupler configured to receive channels from the channel selector and from the one or more second channel selectors and to direct the received channels to the output port.

50. The apparatus of claim 38, wherein the channel selector is configured to transmit a plurality of channels to the add/drop node when in the first channel mode.